

FIG. 1(A)

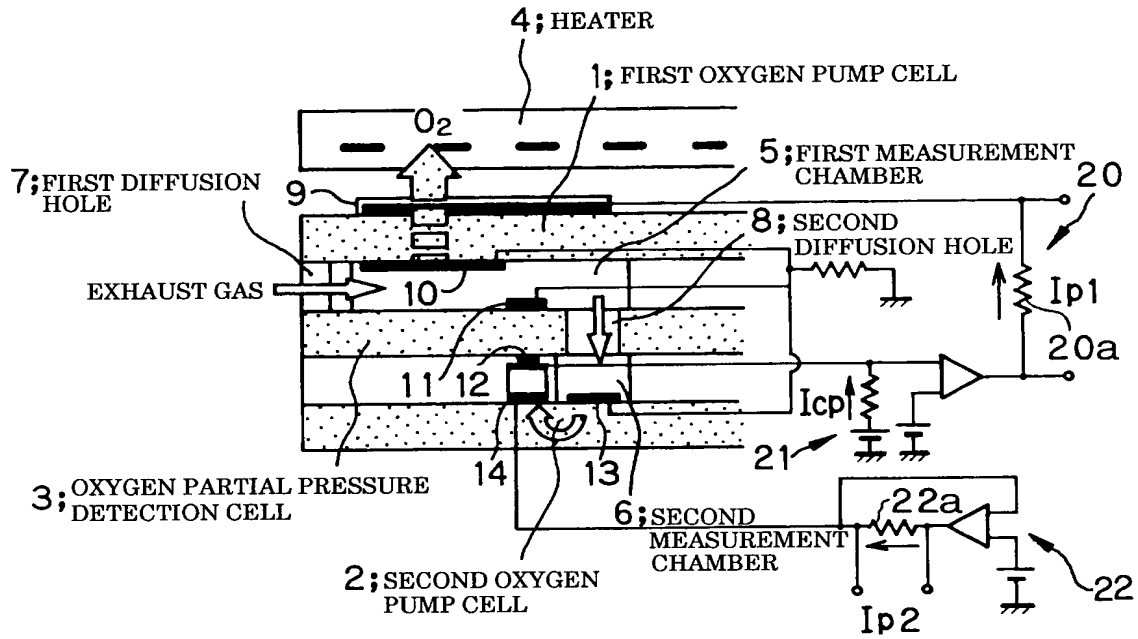


FIG. 1(B)

- 1) EXHAUST GAS ENTERS THE FIRST MEASUREMENT CHAMBER THROUGH THE FIRST DIFFUSION HOLE.
- 2) OXYGEN WITHIN EXHAUST GAS IS PUMPED OUT BY THE FIRST OXYGEN PUMP CELL. AT THAT TIME, THE OXYGEN PARTIAL PRESSURE WITHIN THE FIRST MEASUREMENT CHAMBER IS CONTROLLED BY A SIGNAL FROM THE OXYGEN PARTIAL PRESSURE DETECTION CELL.
- 3) AFTER HAVING BEEN CONTROLLED IN THE FIRST MEASUREMENT CHAMBER TO CONSTANT OXYGEN PARTIAL PRESSURE, EXHAUST GAS ENTERS THE SECOND MEASUREMENT CHAMBER THROUGH THE SECOND DIFFUSION HOLE.
- 4) NO_x IN THE SECOND MEASUREMENT CHAMBER IS DECOMPOSED TO N₂ AND O₂, AND OXYGEN IS PUMPED OUT BY THE SECOND OXYGEN PUMP CELL.
- 5) AT THAT TIME, PUMP CURRENT I_{p2} FLOWS IN PROPORTION TO NO_x CONCENTRATION OF EXHAUST GAS.

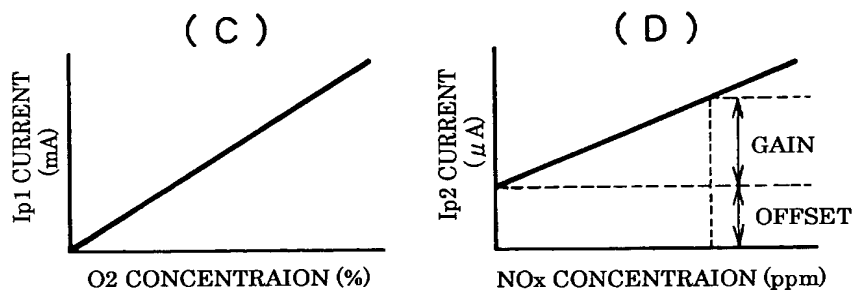


FIG. 2

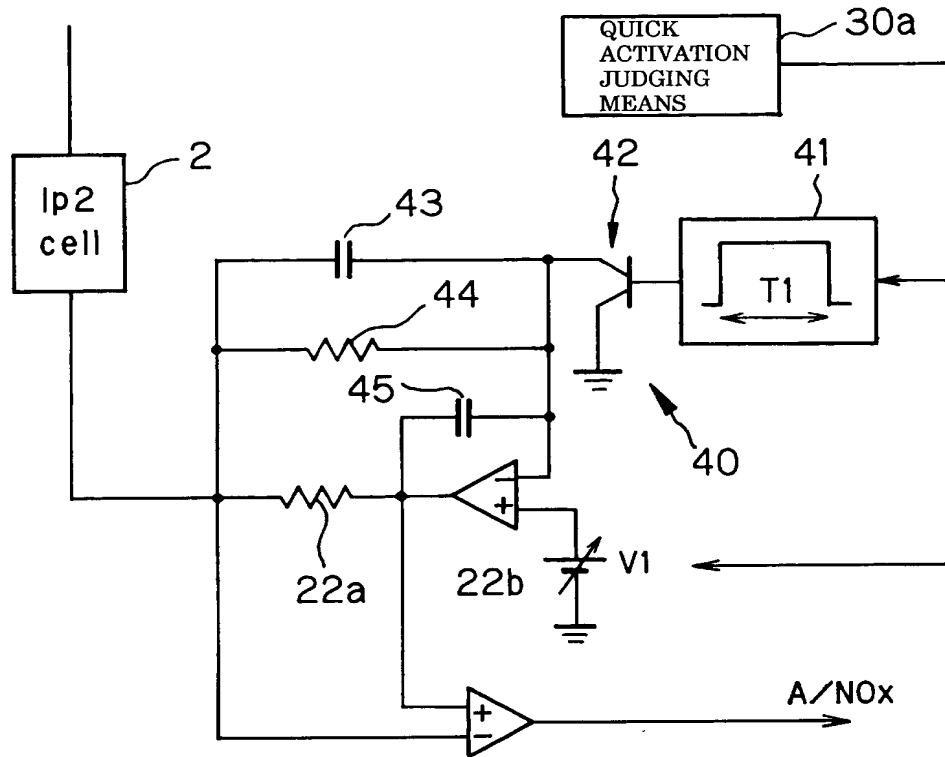


FIG. 3 (A)

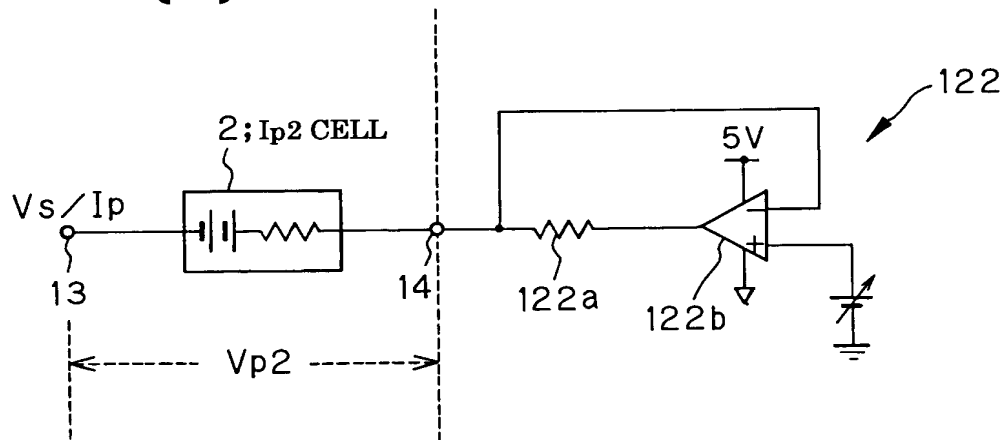


FIG. 3 (B)

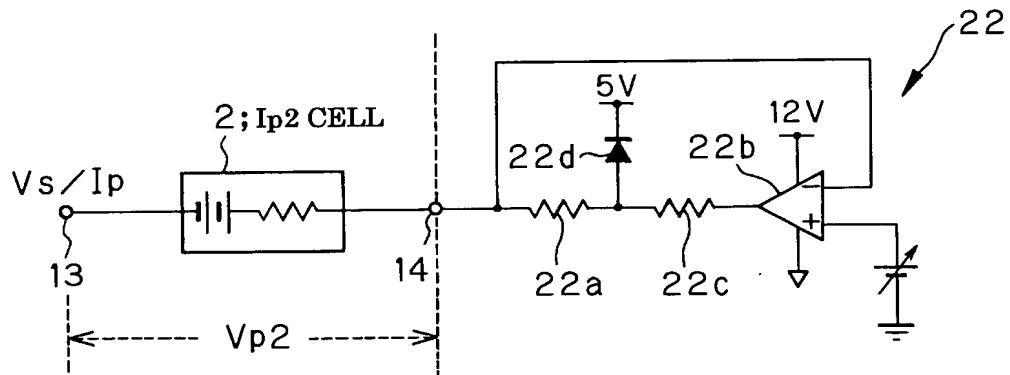
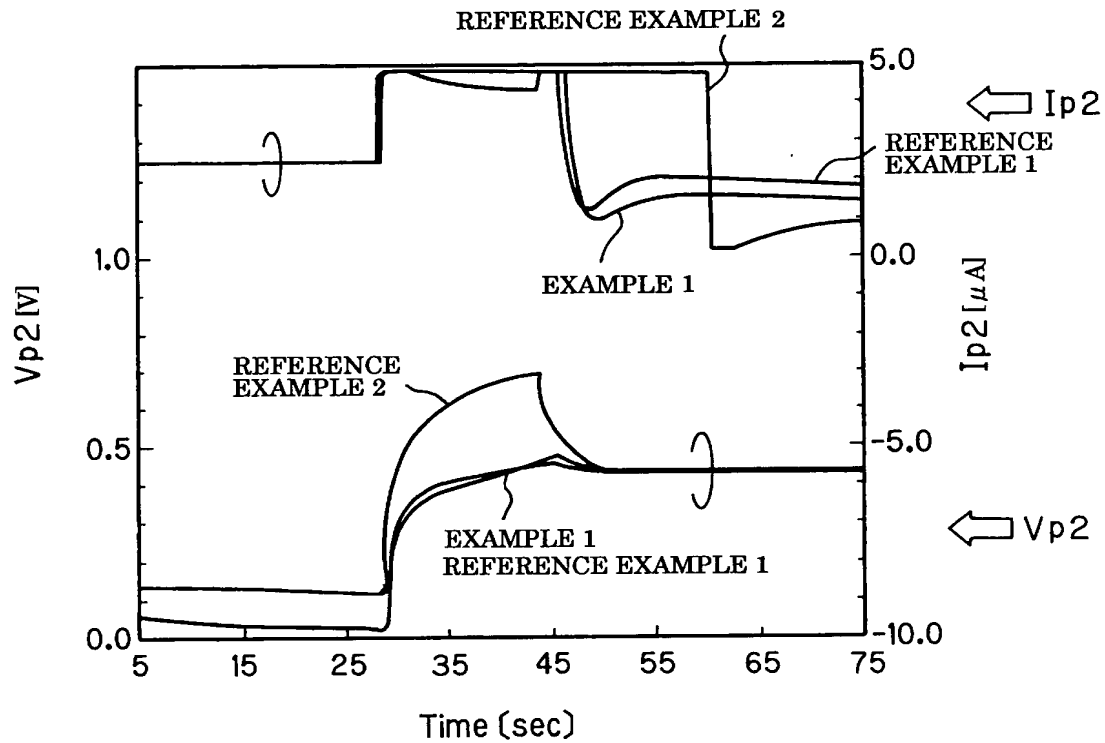


FIG. 4



RESULTS OF COMPARISON OF I_{p2} AND V_{p2} WAVEFORMS